Personal Character and Firm Performance
The Economic Implications of Having Fraudulent Board Members

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Unique proprietary data on Swedish board members reveal that a non-trivial proportion of board members in Swedish listed firms have been convicted of serious crimes. Analyzing the data shows that board members with personal fraudulent behavior are more likely to be males than females. We also find that the greater the proportion of fraudulent board members, the lower is the profitability and the higher are the earnings (and cash flows) volatility of the firm. However, the negative effect of fraudulent behavior on profitability is mitigated when fraudulent board members have a larger stake in the firm's equity. Finally, we find that the earnings of firms with more fraudulent board members are lower and less value-relevant. Given the strong legal enforcement in Sweden, our results raise serious concerns about the effects of board members' personal fraudulent behavior on firm performance and risk-taking in other countries, particularly the United States and the United Kingdom.

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1. Introduction

Evidence from earlier studies suggests that the board of directors has a significant influence on corporate decisions, in particular by monitoring the decisions of top management (Larcker, Richardson and Tuna, 2007). As Fama and Jensen (1983) point out, corporate boards consist of individuals who collectively share their opinions and make decisions in board meetings. This raises the important question as to whether listed firms have a non-trivial number of fraudulent or unethical board members and whether such board members affect corporate performance and risk-taking. If board members do not obey the rules and norms of society, how can shareholders expect them to abide by corporate governance and other rules, to monitor management activities, and ensure that the firm is managed in the best interests of its shareholders?

Surprisingly, evidence on whether board members themselves tend to engage in frauds or exhibit other personal fraudulent behavior is scarce. To the best of our knowledge, there are no published studies that have looked at the implications for corporate performance of having board members with criminal convictions. Our study examines whether and to what extent listed firms have board members who have been convicted of crimes or have exhibited other forms of fraudulent behavior. In addition, we investigate the effect of having fraudulent board members on firms' performance, the propensity to take risks and the quality of financial reporting. Our analysis employs a unique and proprietary database on criminal records of all board members serving on the boards of Swedish publicly listed firms, obtained from the Swedish National Council for Crime Prevention.

Our results show that having board members who have been convicted of crimes is quite common among listed firms in Sweden. This is surprising, given the strong legal system in Sweden and the relatively low level of crime, compared to many other Western countries. In particular, 23% of the board members of the Swedish listed firms have been convicted of crimes and, consequently, sentenced to pay a fine or to unconditional or conditional prison sentences. As an indication of the pervasive influence of these board members, 85% of Swedish listed companies have at least one board member who has been convicted of some crime. We also find that 20% of Swedish listed firms have at least one board member whose name has been entered in a public non-payment record and that 15% of the firms have at least one board member who has served as a board member in more than three other firms that went into bankruptcy. These figures remain fairly stable over the whole sample period from 1999 to 2007, indicating that tightened corporate governance practices in the post-SOX period have not reduced the likelihood of fraudulent board members being appointed. Moreover, our results show that male board members, as opposed to females, are more likely to have been convicted of crimes. This is an interesting finding, given the recent focus of the corporate governance literature on the importance of gender diversity on boards.

An analysis of profitability reveals that the proportion of fraudulent board members is associated with lower firm profitability. Also, companies with more fraudulent board members exhibit higher earnings volatility, suggesting that these firms engage in more risky projects without being fully compensated for taking such risks. However, board members' personal ownership interest in the firm mitigates the negative effect of having fraudulent board members on corporate profitability. In addition, we find that that the power of earnings in explaining market-adjusted stock returns decreases with the proportion of fraudulent board members. An analysis of the direction of causality between the proportion of

fraudulent board members and firm performance indicates that appointing fraudulent board members causes profitability to decline rather than vice versa.

Taken together, our empirical results strongly support the conjecture that appointing individuals with past dishonest behavior to the highest levels of the organizational hierarchy may be more widespread than often believed, and that such appointments could have a serious negative effect on firm's performance and risk-taking (e.g. Pech and Slade, 2007; and Jones et al., 2004). Our results support the view that, when developing new corporate governance measures, more emphasis should be placed on enhancing the quality of individuals serving within the corporate governance system, rather than on changing the governance system itself (e.g. Fischer et al., 2009).

Our results have direct implications for future research on corporate governance and regulatory intervention. Clearly, more research on board members' possible criminal records and other fraudulent behavior is important in understanding the role of corporate governance mechanisms in corporate decisions and consequent performance and risk-taking. A natural corollary to our study is to examine the effect of having fraudulent members on the boards of U.S. companies, where the overall crime rates are higher than in Sweden. In addition, it would be interesting to explore the role of fraudulent board members in recent financial reporting scandals and other corporate frauds. As for the regulatory implications, our results raise a question as to whether regulators should prohibit listed firms from appointing board members whose past dishonest behavior can be traced from official records.

The remainder of this paper is organized as follows: In Section 2, we review the relevant literature on the role of the board in the governance mechanisms of the firm and in corporate frauds. Section 3 describes the sample, data sources and variables. In Section 4, we report the results of our analysis. Section 5 provides concluding remarks.

2. Institutional Background

2.1. Board members lacking conventional morality

Prior studies suggest that several aspects of individuals' personal characteristics are related to their unethical or even criminal behavior. Typically, individuals showing hedonistic or over-confident behavior are more likely to commit crimes. For instance, Jones and Kavanagh (1996) show that individuals lacking conventional morality and being effective manipulators of others exhibit significantly more unethical behavioral tendencies than other people. Blickle and Schlegel (2006) argue that low behavioral self-control, high hedonism, high narcissism and high conscientiousness are positively related to the likelihood of committing business white collar crime.

Is it then possible that individuals possessing these personal characteristics are appointed to the boards of listed firms, and what are the implications for corporate performance of appointing such board members? In fact, studies suggest that it may be surprisingly common that such individuals are appointed as senior executives. For instance, Pech and Slade (2007) suggest that firms sometimes appoint and promote to top managerial positions individuals who may be incompetent, narcissistic and manipulators. They conclude that these individuals can be characterized as organizational sociopaths, and they are sometimes promoted repeatedly until they reach the highest levels of the organizational hierarchy. In addition, Jones et al. (2004) suggest that organizational cultures actually tolerate and favor manipulative, egotistical and self-centered managerial behavior. If the organizational cultures described in these studies are widespread among firms, finding fraudulent individuals on boards of directors may be quite common.

Interestingly, Daly (1989), Zahra et al. (2005) and Blickle and Schlegel (2006) suggest that males more often engage in white-collar crimes than females. In addition, corporate governance studies show that higher proportion of females on the board enhances the board's ability to monitor management. For instance, Adams and Ferreira (2008) show that US companies with more gender-diverse boards invest more effort in monitoring activities. These results indicate that appointing females as board members may result in more effective monitoring, because, as compared to male board members, they are less likely to lack morality and exhibit other fraudulent behavior.

Although board decisions are based on collective opinion sharing and decision-making, the composition of the board, and particularly the personal characteristics of board members plays a significant role in the board's actions (e.g. Raheja, 2005; Adams and Ferreira, 2008; and Fischer et al., 2009). In essence, a board consists of individuals and the composition of the board plays a crucial role in the effectiveness of the board as a governance mechanism (Fama, 1980; Fama and Jensen, 1983). Therefore, having low-moral and dishonest individuals on the board is likely to reduce a board's ability to effectively monitor and advise management. In particular, board members with lower ethical standards who fail follow the standards and norms of society, would be expected to put less emphasize on corporate governance rules and principles that require board members to monitor and advise management.[1] These board members are more interested in enjoying their private benefits of being on the board such as monetary compensation and reputation rather than putting in the necessary effort. Studies even suggest that these personal characteristics may

[1] Individuals' tendency to engage in fraudulent behavior may also be associated with the so-called free rider problem often discussed in the corporate governance literature. The free rider problem refers to those board members who do not contribute much to the board's work. This problem is more pervasive in large boards, where a single board member may play a relatively minor role in the joint decision-making. For instance, Jensen (1993), Yermarck (1996) and Larcker et al. (2007) find that small boards are more effective in their work.

result in poor business decisions, because the individuals possessing these characteristics are not appointed to their positions because of their skills, but because they can manipulate those who promote them (e.g., Pech and Slade, 2007).

The literature discussed above implies that the greater is the proportion of the low-moral and fraudulent board members, the lower is the board's effectiveness in monitoring and advising management. Since the board's actions are based on collective decision-making, these board members can have a serious negative influence on the decisions made by the board, resulting in lower profitability and cash flows.

2.2. Excess risk-taking and sensation seeking board members

While manipulative or sociopathic behavior are extreme examples of personal characteristics that may be associated with criminal convictions, a more common behavioral attribute that has been documented to be associated with criminal behavior is sensation seeking. Sensation seeking may be defined as an individual's tendency to take physical, social, legal and financial risks simply for the sake of the thrill (Zuckerman, 1994). Sensation seekers are relatively fearless and take risks because of the thrill resulting from risk-taking, not because of the expected utility resulting from actions that involve greater risk. Earlier studies argue that criminal convictions such as traffic violations resulting from bad driving behavior may be a good empirical measure of sensation seeking (e.g. Jonah, 1997). For instance, Grinblatt and Keloharju (2009) show that investors' sensation seeking, measured by the number of speeding tickets they have received, is positively related to the frequency with which they trade their stocks. They argue that sensation seeking investors find trading entertaining *per se*, and, therefore, the mere act of trading rather than a buy and

hold strategy creates a more varied and novel experience for these investors. Levenson (1990) argues that sensation seeking is associated with antisocial behavior.

Sensation seeking and in particular, its behavioral attributes, are relevant to our study. Board members who have exhibited fraudulent behavior (e.g., have been convicted of crimes) may have higher tendency for sensation seeking behavior. These sensation seekers may advise or even require management to take unwarranted operating and financial risks. For instance, they may advice management to implement over-risky business strategies or enter over-risky investment projects. Since sensation seeking refers to actions that involve high risk without anticipated appropriate compensation for bearing such risk, these decisions are likely to result in poorer performance and higher earnings/cash-flow volatility.

2.3. Do badly managed firms appoint fraudulent board members?

While the literature discussed so far implies that that appointing fraudulent board members may cause weaker corporate performance, it is also possible that firms with weaker performance are more likely to appoint more fraudulent board members. First, these firms may not be able to appoint competent board members, as these individuals may be reluctant to serve on boards of troubled firms due to higher litigation exposure and negative reputation effects. Second, management of badly managed and under-performing firms may deliberately prefer weaker boards so that they can keep their positions despite the poor performance. Both explanations raise serious doubts as to the board's ability to serve as an effective corporate governance mechanism. The empirical evidence on this issue is sparse, however, some evidence suggests that under-performing firms tend to appoint stronger, not weaker, boards. For instance, Bhagat and Black (2002) show that US firms respond to poor

performance by increasing the proportion of independent board members, therefore increasing the quality of the board as a corporate governance mechanism.

3. Data and Variables

3.1. Data sources

Our sample includes non-financial companies listed on the Swedish stock market for the period 1999-2007 and monitored by Finansinspektionen (The Swedish Financial Supervisory Authority), i.e. the Swedish securities regulator. Table 1 includes information on our sample and on the effects of data restriction on the number of firms. Most of the analysis in this study is conducted using 334 firms.

(Table 1 about here)

The identity of board members in all listed Swedish companies was obtained from Finansinspektionen. We measure the tendency for fraudulent behavior by using data from three different sources: criminal convictions, entries in the public non-payment records and involvement in multiple corporate bankruptcies. While having been convicted of a crime is clearly an indication of fraudulent behavior, entries in the non-payment records or being a board member of several other bankrupt firms could result from reasons other than non-ethical or fraudulent behavior. Nevertheless, they have implications for the board member's credibility as a participant in a main corporate governance mechanism. For instance, a board member with serious personal financial problems resulting in entries in the non-payment record may not be considered a credible and responsible source of good judgment in monitoring and advising management. Similarly, being a board member of several other bankrupt firms could be an indication of a board member's poor judgment or lack of advisory skills. Despite their potential limitations, these three items should jointly reflect a

board member's potential fraudulent behavior. We therefore consider these three events – criminal convictions, entries in the non-payment record and being a board member of bankrupt firms – as indications of fraudulent behavior.

Data on board members' criminal convictions are taken from Brå (The Swedish National Council for Crime Prevention), a council within the Swedish judicial system formed by the Swedish government.[2] Our dataset from Brå contains information on criminal activity since 1973 for all Swedish citizens. More specifically, it contains information about individuals who have been found guilty by a court of law or received summary punishments by prosecutors.[3] The information on which the register is based is collected from all Swedish courts and prosecution authorities. For each board member registered, this dataset includes details of the crime and the punishment (the length of unconditional imprisonment, suspended sentences and monetary fines) and the details of the crime (for each crime an exact reference to the law or laws violated is given). The data base does not, however, contain information on minor offences like speeding and violation of local bylaws for which the punishment is an on-the-spot fine. Hence, the database only contains information about serious crimes committed. We deleted all crimes committed by board members before their 18th birthdays, as crimes committed prior to age 18 may not be good predictors of overall criminal behavior. The Appendix shows the numbers of convictions and convicted board members for the most commonly violated laws. The list of crimes committed includes serious crimes against the Penal Code such as theft and crimes against life and health. As

[2] The purpose of Brå (www.bra.se) is to reduce crime and improve levels of safety in Sweden by producing data and disseminating knowledge on crime and crime prevention work. The Council also produces Sweden's official crime statistics, evaluates reforms, conducts research and provides support to local crime prevention agencies.

[3] A criminal investigation does not always lead to a prosecution and trial, even though there is sufficient evidence to prove that the crime has been committed. If the suspect confesses the crime and it is clear what the punishment will be, the prosecutor may pronounce a so-called order of summary punishment (Source: Swedish Prosecution Authority, www.aklagare.se).

described above, speeding, parking and similar violations of traffic laws are not included in our sample.

Data on board members' involvement in bankruptcy and records of nonpayment are from UC, Sweden's leading business and credit information agency. According to Swedish law (SFS 2005:559), UC is not allowed to store information on individuals' involvement in bankruptcy for more than five years. Since data on bankruptcy were collected at the beginning of 2009, we managed to obtain bankruptcy involvement data going back to 31 December 2004. Information on non-payment is stored for only three years (SFS 1973:1173). Our data on nonpayment was collected on 30 October 2008, so the first observation is from 30 October 2005.

Finally, data on board members' stockholdings were taken from Euroclear Sweden, which maintains an electronic database on the ownership of all Swedish stocks. For each investor, the dataset includes ownership records of all stocks owned at the end of July and December of each year (as data are recorded at six-month intervals). Data on board members' other wealth (real estate, mutual funds, bank holdings and investments in debt securities) were obtained from the Swedish Tax authorities and are reported on an annual basis. Finally, accounting and market data for Swedish listed firms were obtained from Thomson's Datastream. If the firm is missing from Thomson's Datastream, we retrieved data from Bureau van Dijk global database, accessed via Wharton Research Data Services (WRDS), and the Six Trust database.

3.2. Variable definitions

To capture the effect of fraudulent behavior on the board of directors we construct three variables based on the proportion of fraudulent board members. First, $CRIME_{it}$ is the

ratio of board members convicted of crimes to the total number of board members for firm *i* at fiscal year-end *t*. Second, $PAYMENT_{it}$ is the number of board members having a non-payment record divided by the total number of board members for firm *i* at fiscal year-end *t*. Third, $BANKRUPTCY_{it}$ is the number of firm *i*'s board members who have served on at least three boards of other bankrupt firms divided by firm *i*'s total number of board members at fiscal year-end *t*. Finally, $FRAUD_{it}$ is the sum of the variables $CRIME_{it}$, $PAYMENT_{it}$ and $BANKRUPTCY_{it}$. This variable is a composite measure containing all the information regarding a board member's potential fraudulent behavior.[4]

As discussed in Section 3.1., we include board members' criminal convictions and non-payment records in $FRAUD_{it}$ because both measures clearly reflect a person's tendency for unethical or antisocial behavior. In particular, it is well established in the criminology literature that one of the best predictor of future criminal acts is a history of criminal behavior (Gendreau et al., 1996). We include board members' involvement in multiple bankruptcies in $FRAUD_{it}$ because bankruptcies are often caused by excessive risk-taking, which is more typical for individuals with fraudulent behavior, as discussed in Section 2. Also, while certain board members specialize in "saving" distressed firms, serving on multiple boards of companies that go bankrupt could raise serious doubts about an individual's ability to monitor and advise management. We nevertheless recognize the problematic nature of bankruptcy history as an indicator of fraudulent behavior and conduct robustness checks by excluding board members' bankruptcy involvement from $FRAUD_{it}$. These results are similar to those reported here, and are discussed in Section 4.4.

[4] Some boards include members who have been convicted of crimes, have an entry in the non-payment record and have been involved in a bankruptcy. Consequently, $FRAUD_{it}$ may be greater than one. In these cases, we have truncated the value of the variable $FRAUD_{it}$ to one. We have also estimated all our models without this truncation and also by deleting these observations with similar results.

We also construct several other corporate governance variables frequently used in the literature. $MALE_{it}$ is the ratio of firm *i*'s male board members to total board members at year-end *t*; $BUSY_{it}$ is the number of board members serving on three or more boards of listed Swedish firms divided by firm *i*'s total board members at year-end *t*; and $INSIDER_{it}$ denotes the proportion of board members who hold other positions in the firm in addition to being on the board (non-independent board members) at year-end *t*. In addition, we use data on board members' total personal wealth to compute the proportion of total personal wealth invested in the firm. Specifically, we define $OWNER_{it}$ as the average market value of the board members' holdings in firm *i* at year *t* divided by the average value of their total wealth at year *t* (the market value of holdings in all insider and outsider stocks and the value of other wealth). Board size ($BOARDSIZE_{it}$) is measured as the logarithm of the total number of board members for firm *i* at year-end *t*.

Firm performance is measured using the following variables: (i) net income divided by market value of equity at the beginning of the year (EP_{it}); (ii) operating cash ($OPERCF_{it}$), measured as net income minus total accruals divided by average total assets for firm *i* at fiscal year-end *t*; (iii) return on assets (ROA_{it}), measured as firm *i*'s earnings before interest and taxes divided by lagged total asset at fiscal year-end *t*; and (iv) return on equity (ROE_{it}), measured as firm *i*'s net income divided by lagged shareholders' equity at fiscal year-end *t.* These measures give qualitatively similar results, and we tabulate only those results for EP_{it} and $OPERCF_{it}$. Total accruals ($TOTACCRUALS_{it}$) needed to calculate $OPERCF_{it}$ are measured as:

$$TOTACCRUALS_{it} = \Delta Inventory_{it} + \Delta \mathrm{Re}\, cievables_{it} + \Delta Other\ current\ assets_{it} - \Delta Payables_{it} - \Delta Other\ current\ liabilities_{it} - Depreciation_{it}.$$

We also use stock market returns in our empirical analysis. For each firm/year we compute annual stock returns from January to December. To adjust for market movements, we subtract the return on the Swedish market portfolio to obtain annual market-adjusted returns for each firm/year, denoted as $MRET_{it}$.

3.3. Descriptive Statistics

Table 2 presents summary statistics on board members who have been convicted of crimes. As Panel A of the Table 2 shows, the proportion of convicted board members in Swedish listed companies is surprisingly high. From a total of 3,297 board members in our sample, 732 (22.2%) have been convicted in crimes and were sentenced to pay fines, and 82 (2.5%) have been given unconditional and conditional prison sentences. In addition, many other board members have been convicted of white-collar and other serious crimes. Panel A of Table 2 shows that the total number of convicted board members is greater than the number of convicted board members for each crime category because some board members have been convicted more than once. For this reason, the numbers of convictions reported in Panel B are also greater than the numbers of convicted board members reported in Panel A.[5] Clearly, having multiple crime convictions for one board member is an indication of fraudulent behavior.

The results in Panel B of Table 2 also show that about 95% of all crime convictions are for male board members. In particular, all board members convicted of white collar crimes are males, while only 84% of board members in our sample are males. These results suggest that appointing male board members is more likely to increase the proportion of fraudulent

[5] The number of board members who have been sentenced either to pay a fine or to unconditional or conditional prison sentences is 757, i.e. slightly smaller than the sum of these numbers reported in Table 2. This difference is also due to the fact that some board members have been convicted of more than one crime, and received different sentences (fine vs. imprisonment) for different crimes.

board members. Earlier studies suggest that a greater proportion of females on the board raises the level of corporate governance because greater gender distribution increases the diversity of board opinion. Our results suggest that another reason for these prior findings could be related to less fraudulent behavior and consequently lower agency costs, rather than diversity in opinion. Our findings on fraudulent behavior being more common for males than females are consistent with those reported in studies on individuals' overall criminal behavior of individuals (e.g. Blicke et al., 2006).

(Table 2 about here)

Table 3 reports summary statistics on board members having an entry in a non-payment record and board members who served on the boards of at least three other bankrupt companies. Having an entry on the non-payment record indicates that a board member has failed to meet his/her financial obligations. Regarding seats on the boards of other bankrupt companies, we consider only board memberships of private (non-listed) companies during the sample period. As in the case of criminal convictions, male board members are more likely to fail to meet their financial obligations and serve on other bankrupt companies than female board members.

(Table 3 about here)

Earlier studies argue that the general level of corporate governance has improved following recent accounting and other corporate scandals (e.g. Linck et al., 2008; Burkes, 2009) due, for instance, to the Sarbanes Oxley Act of 2002 and voluntary governance measures adopted by corporations. Linck et al. (2008) show that board structures changed post-SOX, primarily in the form of greater board independence. This behavior raises the question of whether the proportion of fraudulent board members has decreased over time. If firms and their equity holders have become more cautious when appointing board members,

the proportion of fraudulent board members may have decreased. Such a change would, however, require that the nominees for boards have voluntarily begun to disclose their criminal records, because the legislation in Sweden does not require them to disclose such information.

Figure 1 shows the proportion of firms having at least one convicted board member each year. We cannot identify any systematic decrease in the proportion of convicted board members, suggesting that tightened corporate governance practices have not reduced the likelihood of fraudulent board members being appointed. Most likely this result indicates that firms are perhaps unaware of the convictions of nominated board members. Alternatively, firms may be aware of the fraudulent background of their board member candidates, but they have chosen to appoint these individuals to avoid tight monitoring. Although the latter explanation is implausible as it downplays the shareholders' role in appointing board members, both explanations lead to weak monitoring of the firm management.

(Figure 1 about here)

Table 4 reports summary statistics on the variables used in the empirical analyses. As Panel A shows, the mean (median) proportion of convicted board members ($CRIME_{it}$) is 25.7% (22.2%), which is quite significant. Also, this variable ranges from 0 to 1, indicating that some sample firms have no convicted board members, while some have appointed only convicted members. The mean (median) proportion of fraudulent board members ($FRAUD_{it}$), represented here by the sum of $CRIME_{it}$, $BANKRUPTCY_{it}$ and $PAYMENT_{it}$ is 31.5% (27.3%).[6] The results show that having fraudulent, even convicted, board members is pervasive among Swedish listed firms. As Panel B shows, the mean proportion of male

[6] As described earlier, some board members have been convicted of crimes, have an entry in the non-payment record and have been involved in a bankruptcy. Therefore, the sum of $CRIME_{it}$, $BANKRUPTCY_{it}$ and $PAYMENT_{it}$. is slightly greater than $FRAUD_{it}$.

board members is 86.7% and about 16% of board members have three or more other board memberships. The average board size is about eight members. On average, board members have invested 14% of their total wealth in the stock of the firm where they serve as board members.

Panel C of Table 4 presents summary statistics for several firm-specific performance and other measures.[7] Over the sample period, the firms in our sample generated, on average, zero return on assets (ROA_{it}). However, the median is 6.1%, suggesting that the distribution of ROA_{it} is skewed to the left. Also, mean return on equity (*ROE*) is negative, but the median is 8.8% over the sample period. Similarly, the median of earnings divided by beginning of period share price (EP_{it}) is 0.036, suggesting a median P/E ratio of 28. Operating cash flows are on average 2.2% of total assets (median = 6.9%).

On average, 17.2% of total assets are financed by interest-bearing debt, as reflected by the mean of $LEVERAGE_{it}$. The absolute value of total accruals is, on average, 8.2% of total assets. The average size of our sample firm is €900 million, smaller than a typical listed company in the US. Finally, market-adjusted stock return is on average 2.1% over the sample period, but the median is -4.7%.

(Table 4 about here)

Table 5 presents Pearson (above diagonal) and Spearman (below diagonal) correlations coefficients between our main variables including those between our crime-based corporate governance measures and the variables measuring the proportion of fraudulent board members. The results show that the variables measuring the fraction of fraudulent board members are positively correlated, suggesting that firms that appoint convicted board

[7] Distributions of EP_{it}, $OPERCF_{it}$ and $MRET_{it}$ are truncated by deleting 1% of the observations on each side.

members are more likely to appoint members with non-payment entries or members who have been involved in bankruptcies.

Moreover, the variables that measure the fraction of fraudulent board members ($FRAUD_{it}$, $CRIME_{it}$, $BANKRUPTCY_{it}$, and $PAYMENT_{it}$) are significantly negatively correlated with both measures of firm profitability (EP_{it} and $OPERCF_{it}$). This finding supports the view that board members' personal fraudulent behavior is associated with a lower level of corporate governance and consequently lower levels of performance. In addition, all variables measuring the fraction of fraudulent board members are positively correlated with the proportion of male board members and negatively correlated with firm size. Consistent with previous studies (e.g., Erhardt and Werbel, 2003), the results in Table 5 suggest that the greater the proportion of male board members, the lower is firm profitability.

(Table 5 about here)

4. Empirical results

4.1. Determinants of the proportion of fraudulent board members

We begin our analysis by identifying the determinants of the proportion of fraudulent board members. We use the following OLS regression model:

$$FRAUD_{it} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 MALE_{it} + \beta_2 BUSY_{it} + \beta_3 INSIDER_{it} + \beta_4 LEVERAGE_{it} + \beta_5 SIZE + \varepsilon_{it}, \quad (1)$$

The dependent variable is $FRAUD_{it}$ -- the proportion of fraudulent board members. Independent variables are: $MALE_{it}$ -- the proportion of male board members; $BUSY_{it}$ -- the proportion of board members with three or more board memberships in other listed Swedish firms; $INSIDER_{it}$ -- the proportion of board members who hold other positions in the firm;

$LEVERAGE_{it}$ -- interest-bearing debt divided by total assets; and $SIZE_{it}$ – the natural logarithm of total assets. We also include year ($YEAR_s$) and industry ($INDUSTRY_r$) dummy variables based on 2-digit SIC codes. All *t*-values in the pooled regression are based on heteroskedasticity-adjusted standard errors. Also, we take into account firm-level clustering in standard errors as in Petersen (2009). Specifically, we allow both a firm and time effect to be present in the panel data and address the time effect parametrically by including yearly dummies and then estimate standard errors clustered on the firm dimension.[8] In addition to estimating Equation (1) with pooled data, we report results using average coefficients and corresponding *t*-statistics from cross-sectional annual regressions as in Fama and MacBeth (1973).

We include in Equation (1) variables that are expected to affect the likelihood of fraudulent board members being appointed. First, we include $MALE_{it}$ in the model because other studies have argued that males are more likely than females to be involved in frauds (e.g. Zahra et al., 2005; Blickle and Schlegel, 2006). Thus, appointing male board members is likely to increase the proportion of fraudulent board members. Second, the model includes $BUSY_{it}$ because "professional" board members serving on several other boards, are more likely to be screened by other firms as a part of the processes of selecting board members. Third, we include $INSIDER_{it}$ in the model because individuals who hold other positions in the firm are probably evaluated more thoroughly before being appointed to their positions. Hence, these board members are less likely to have been involved in fraudulent behavior. Fourth, $LEVERAGE_{it}$ is included in the model because firms with more leverage are likely to be under stricter control by lenders, which might reduce the likelihood of fraudulent board members being appointed. On the other hand, firms with a larger proportion of fraudulent

[8] We apply this methodology in all pooled regressions throughout the paper.

board members are more likely to engage in risky projects and borrow more. The sign of the coefficient on $LEVERAGE_{it}$ thus depends largely on the direction of causality. Fifth, $SIZE_{it}$ is included in the model as larger firms are more visible to the public and corporate governance decisions, such as appointing board members, may be under greater public scrutiny, hence reducing the likelihood of fraudulent board members being appointed.

Table 6 provides the results of estimating Equation (1). The results show that the proportion of fraudulent board members increases with the proportion of male board members ($MALE_{it}$) supporting earlier results on males being more likely to be involved in fraudulent activities (e.g., Zahra et al., 2005; Blickle and Schlegel, 2006). The proportion of board members who hold other positions in the firm ($BUSY_{it}$) has a negative rather than positive effect on the proportion of fraudulent board members, but it is significant at the 0.05 level only in the Fama-MacBeth analysis. This result indicates that professional board members, as opposes to others, could actually be more likely to show fraudulent behavior. We also find that the degree of leverage is positively associated with the proportion of fraudulent board members, although the coefficient on $LEVERAGE_{it}$ is significant at the 0.05 level only in the Fama-MacBeth analysis. This result supports the argument that fraudulent board members tend to be excessive risk-takers, which is reflected in higher leverage. Finally, the proportion of fraudulent board members decreases with the size of the firm ($SIZE_{it}$). This result is consistent with the view that large firms screen the backgrounds of candidates for board membership more thoroughly.

(Table 6 about here)

4.2. Fraudulent board members and the performance of the firm

Next, we examine the effect on the corporation's performance of having board members with fraudulent behavior. We first divide the sample into quartile portfolios according to the proportion of fraudulent board members ($FRAUD_{it}$). Table 7 presents the results for equal-sized portfolios (Panel A) and variable-sized portfolios (Panel B).

As shown in Panel A, earnings deflated by lagged share price (EP_{it}) decline monotonically as we move from a quartile portfolio with fewer fraudulent members to a quartile portfolio with more fraudulent members (the difference between the high and low portfolios is significant at the 0.01 level). Similarly, operating cash flows ($OPERCF_{it}$) decrease with the proportion of fraudulent board members (the difference between the high and low portfolios is significant at the 0.01 level). These results, which are corroborated by analyzing variable-sized portfolios (Panel B), are consistent with the argument that boards with higher proportions of fraudulent board members are less effective in monitoring the firm, resulting in lower earnings and cash flows.

Companies with larger proportions of fraudulent board members tend to be smaller, suggesting that these firms may be less visible to regulators and to the shareholders who appoint board members. Also, total accruals are significantly higher for companies with larger proportions of fraudulent board members, consistent with the argument that these companies produce lower quality financial statements. Similar results appear in Panel B when instead of equal-sized portfolios, we use variable-sized portfolios.

We also examined the volatility of income and cash flows and found them to increase with the proportion of fraudulent board members. This result is consistent with the argument that fraudulent behavior is associated with taking unwarranted risks (sensation seeking). In particular, companies with more fraudulent board members take risks without being properly

compensated in terms of expected earnings and cash flows. In addition, we find that companies with more fraudulent board members experience lower stock returns (significant at the 0.10 level only in equal-sized portfolios), which provides more support for the argument of unwarranted risk taking.

(Table 7 about here)

We extend the univariate portfolio analysis using a multivariate regression analysis. In particular, we explore the economic implications of potentially weaker corporate governance arising from fraudulent board members by estimating the relation between the proportion of fraudulent board members and corporate profitability measures after controlling for other corporate governance variables. We expect profits to increase with the effectiveness of the board in monitoring and advising the firm. As fraudulent board members are expected to be less engaged in monitoring and advising the firm, and promote unwarranted risk taking, we expect a negative relation between the proportion of fraudulent board members and the profitability of the firm.

We also expect that the governance problem arising from appointing fraudulent board members might be mitigated if these board members collectively own the equity of the firm. In such a case, they have an incentive to exert more effort in monitoring and advising management. We therefore expect that the classical solution to the principal-agent problem, i.e. the alignment of the agent's interests with those of the principal through equity ownership (e.g. Jensen, 1993), applies here. The empirical research provides some evidence that board members with significant equity ownership in the firm are indeed more effective monitors. In particular, Bhagat and Black (2002) report that independent board members who hold significant stock positions add value to the firm, while other independent board members do not. In addition, Bhagat and Bolton (2008) find that the stock ownership of

board members increases the firm's operating performance. Therefore, we expect that although fraudulent board members generally have weaker incentives to monitor the firm, their monitoring incentives increase with their economic stake in the firm (see also Beasley, 1996).

We test these predictions by estimating the following OLS model:

$$PROF_{it} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 FRAUD_{it} + \beta_2 FRAUD_{it} \times OWNER_{it} + \beta_3 OWNER_{it} + \beta_4 MALE_{it} + \beta_5 BUSY_{it} + \beta_6 INSIDER_{it} + \beta_7 LEVERAGE_{it} + \beta_8 SIZE_{it} + \varepsilon_{it}. \quad (2)$$

As discusses in Section 3.2, we use several measures of firm profitability as dependent variables in Equation (2), but tabulate the results only for two measures to save space. The first one is earnings per share divided by lagged share price (EP_{it}) and the second one is operating cash flows ($OPERCF_{it}$). The main explanatory variables in Equation (2) are $FRAUD_{it}$ (the proportion of fraudulent board members) and $FRAUD_{it} \times OWNER_{it}$ (the interaction variable between the proportion of fraudulent board members and their ownership interest in the firm). All other variables are as described in Equation (1). Heteroskedasticity-adjusted standard errors are used to calculate *t*-values, and the firm-level clustering in standard errors is taken into account as described in Equation (1) and in Petersen (2009).

We include in Equation (2) the same control variables as in Equation (1), because these variables have been found to affect firm performance. First, $MALE_{it}$ is included in the equation, because prior studies find that gender diversity affects firm performance, although different studies report different signs for the effect. For instance, Erhardt and Werbel (2003) find a positive relationship between gender diversity and performance, whereas Adams and Ferreira (2009) find a negative effect. Second, we include $BUSY_{it}$, because earlier studies

find that firms in which a majority of outside board members hold several directorships in other firms exhibit weaker profitability (e.g. Fich and Shivdasani, 2006). Third, $INSIDER_{it}$ is included because it reflects the degree of board independence, and there are studies showing that board independence is associated with firm performance. The expected sign of the association, however, is controversial; while some studies suggest that firms benefit from a greater proportion of outside board members, other studies suggest that firms may benefit from boards with more insider representation (e.g. Drymiotes, 2007; Coles et al., 2008). Fourth, in addition to traditional corporate governance measures, Equation (2) controls for leverage and firm size, as these firm characteristics may be related to performance. Finally, to control for temporal and industry differences we include annual dummy variables ($YEAR_s$) and industry dummy variables ($INDUSTRY_r$) based on 2-digit SIC codes.

Table 8 reports the results of estimating Equation (2). The results show that the coefficients on $FRAUD_{it}$, proportion of fraudulent board members, are negative and significantly different from zero at the 0.01 level for both measures of profitability. Moreover, the coefficients on EP_{it} and $OPERCF_{it}$ range from -0.09 to -0.17 in alternative model specifications, suggesting that the effect of having fraudulent members on the board is economically significant. The results in Table 8 suggest that firms with relatively more fraudulent board members are less profitable. These results support the view that the corporate governance mechanisms are weaker in firms with relatively more fraudulent members, leading to less effective boards.

The coefficients on the interaction variable $FRAUD_{it} \times OWNER_{it}$ are positive, as expected, and significant at the 0.05 level or better. These results suggest that while the proportion of fraudulent board members is negatively related to firm profitability, board members' personal ownership interest in the firm mitigates this effect. These results support

the view that the governance problem arising from board members' fraudulent behavior is mitigated if board members own a major stake in the firm's equity. In addition, these results are consistent with those reported by Bhagat and Black (2002) and Bhagat and Bolton (2008) who report that the board members' stock ownership increases the firm performance.

Regarding the other explanatory variables, the results in Table 8 show that none of the traditional corporate governance measures ($MALE_{it}$, $BUSY_{it}$ and $INSIDER_{it}$) have a consistent significant influence on profitability. An exception is a significantly positive slope on $MALE_{it}$ when the dependent variable is EP_{it}, which supports Adams and Ferreira's (2009) results that gender diversity has a negative effect on firm performance. Our results also show that leverage is negatively associated with profitability. Finally, firm size is positively associated with profitability, as reflected in the positive coefficients on $SIZE_{it}$.

(Table 8 about here)

The results in Table 8 may be driven by serial correlation in the independent variables. We therefore estimate Equation (2) using one observation per firm[9]. In particular, for each variable, we compute the mean variable over the entire sample period and include these means in equation (2). The results (not tabulated) confirm the negative association between firm performance and the proportion of fraudulent board members. Specifically, the coefficients on $FRAUD_i$ are negative (-0.14, and -0.14) and significant at the 0.01 level. These results support the view that appointing more fraudulent board members impairs firm performance.

Since fraudulent board members are more likely to be males than females, it is also possible that the results in Table 8 are driven by gender diversity rather than fraudulent

[9] We also estimate Equation (2) using the Fama-MacBeth method. The coefficients on $FRAUD_{ij}$ are negative and significant at the 0.01 level, as in Table 8. The coefficient on the inter-action variable $FRAUD_{ij} \times OWNER_{ij}$ is only significant at the 0.10 level when EP_{ij} is used as the dependent variable and not significant at the 0.10 level when $OPERCF_{ij}$ is used as the dependent variable. The lack of significance of the interaction variable is likely due to lack of power resulting from having 9 annual observations.

behavior. We, therefore, estimated Equation (2) using firms with only male board members. The results (not tabulated) show negative coefficients (significant at the 0.01 level) on $FRAUD_{it}$, as expected. The coefficients on $FRAUD_{it} \times OWNER_{it}$ are positive, as before, but significant only at the 0.10 level, probably due to smaller sample size. Thus, it is more likely that the results in Tables 8 are driven by fraudulent behavior than gender diversity in the board.

The results thus far suggest that corporate performance is negatively associated with the proportion of fraudulent board members. However, the results are silent on the direction of causality. Is it the case that appointing fraudulent board members causes profits to decline or do companies with weaker performance tend to appoint weaker (more fraudulent) board members? To investigate this issue, we estimate the following vector autoregressive (VAR) system of equations:

$$PROF_{it+1} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 PROF_{it} + \beta_2 FRAUD_{it} + \beta_3 MALE_{it} + \beta_4 BOARDSIZE_{it} + \beta_5 BUSY_{it} + \beta_6 INSIDER_{it} + \beta_7 LEVERAGE_{it} + \beta_8 SIZE_{it} + \varepsilon_{it}, \quad (3a)$$

$$FRAUD_{it+1} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 FRAUD_{it} + \beta_2 PROF_{it} + \beta_3 MALE_{it} + \beta_4 BOARDSIZE_{it} + \beta_5 BUSY_{it} + \beta_6 INSIDER_{it} + \beta_7 LEVERAGE_{it} + \beta_8 SIZE_{it} + \varepsilon_{it}. \quad (3b)$$

If the proportion of fraudulent board members causes profitability to decline but not vice versa, we would expect the coefficient β_2 in Equation (3a) to be negative and the coefficient β_2 in Equation (3b) to be zero. If, instead, lower profitability causes companies to appoint fraudulent board members, we would expect the coefficient β_2 in Equation (3a) to be zero and the coefficient β_2 in Equation (3b) to be negative (Granger causality test). We use

heteroskedasticity-adjusted standard errors to calculate *t*-values, and take into account the firm-level clustering in standard errors as described in Equation (1) and in Petersen (2009).

The results in Table 9 show that the coefficients on $FRAUD_{it}$ in equation (3a) are negative (and significant at the 0.05 level) for both profitability measures. On the other hand, the coefficients on both profitability measures in Equation (3b), although negative as expected, are not significantly different from zero at the 0.05 level. These results support the claim that appointing fraudulent board members causes profitability to decline. However, these result need to be interpreted with caution, because our VAR models are based on annual data over a sample period of only 9 years.

(Table 9 about here)

4.3. Fraudulent board members and earnings quality

Next, we investigate whether the relevance of earnings in explaining annual stock returns is affected by the proportion of fraudulent board members. Earlier studies on the relation between earnings management and the level of corporate governance generally conclude that weak governance leads to opportunistic accounting discretion (e.g. Guidry et al., 1999; Klein, 2002). For instance, Klein (2002) finds that board independence is negatively related to the extent of earnings management among U.S. firms. Similarly, Bowen et al. (2008) find a positive association between poor governance quality and accounting discretion, but they also report evidence that accounting discretion due to poor governance is positively related to future firm performance.

While prior studies have explored the relationship between governance quality and earnings management from various angles, we take a straightforward approach by looking at the effect of governance quality on the value relevance of reported earnings. If the board of

directors fails to monitor management, the firm is more likely to engage in earnings management activities that reduce the quality of earnings, which in turn is reflected in the reduction in the value relevance of earnings. In addition, firms influenced by fraudulent board members are more likely to engage in over-risky projects, which could also reduce the value-relevance of earnings (for example, due to losses). To examine this question we use a return-earnings model similar to that used in Easton and Harris (1991):

$$MRET_{it} = \gamma_0 + \gamma_1 EP_{it} + \gamma_2 \Delta EP_{it} + \upsilon_{it} \quad (4)$$

The dependent variable ($MRET_{it}$) is annual market adjusted stock returns from January to December (firm's annual return minus annual market return in Sweden). Independent variables are earnings levels divided by beginning of period share price (EP_{it}) and earnings changes divided by beginning of period share price (ΔEP_{it}). Both variables are expected to have positive coefficients.

To address our research question, we allow the coefficients on earnings levels and earnings changes to vary by the proportion of fraudulent board members ($FRAUD_{it}$). We also add firm size (log of total assets) and annual dummy variables as control variables, obtaining the following regression equation:

$$RET_{it} = \delta_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \delta_1 FRAUD_{it} + \delta_2 EP_{it} + \delta_3 \Delta EP_{it} + \delta_4 EP_{it} \times FRAUD_{it} + \delta_5 \Delta EP_{it} \times FRAUD_{it} + \delta_6 SIZE_{it} + \upsilon_{it} \quad (5)$$

Table 10 presents the results of estimating Equation (5) using a pooled model with year fixed effects and for cross sectional estimation as in Fama and MacBeth (1973). In the pooled regression, we use *t*-values based on heteroskedasticity-adjusted standard errors, and

we also take into account the firm-level clustering in standard errors as described in Equation (1) and in Petersen (2009).

As the results reported in Table 10 show, the coefficients on earnings levels are positive, as expected, and significantly different from zero at the 0.01 level for both estimation methods. Also as expected, the coefficients on earnings changes are positive and significant at the 0.05 level or better in both estimation methods. However, the value-relevance of earnings decreases with the proportion of fraudulent board members as reflected by the negative coefficients on $EP_{it} \times FRAUD_{it}$ (significant at the 0.05 level in both estimation methods). The coefficients on $\Delta EP_{it} \times FRAUD_{it}$ are also negative, as expected, but only the coefficient from the pooled model is significant at the 0.05 level. Collectively, the results in Table 10 support the argument that boards with more fraudulent members are less effective in monitoring the firm, resulting not only in lower earnings, but also in lower quality of earnings.

(Table 10 about here)

Lastly, we examine the effect of appointing fraudulent board members on corporate risk. As argued earlier, one of the personal characteristics of fraudulent board members is sensation-seeking, resulting in unwarranted risk-taking. We therefore anticipate a positive association between the proportion of fraudulent board members and the volatility of earnings and cash flows. We use the following model:

$$VOLATILITY_i = \alpha_0 + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 FRAUD_i + \beta_2 MALE_i + \beta_3 BUSY_i + \beta_4 INSIDER_i + \beta_5 LEVERAGE_i + \beta_6 SIZE_i + \varepsilon_i \quad (6)$$

We use three profitability measures in Equation (6). The first one is the standard deviation of earnings divided by lagged share price (EP_{it}); the second variable is the standard deviation of operating cash flows divided by total assets ($OPERCF_{it}$); and the third is the standard deviation of return on assets (ROA_{it}). Each dependent variable is measured over the sample period (1999-2007). We limit the analysis to firms with at least three annual observations, resulting in a sample of 222 firms. Finally, each independent variable is the firm average over the entire sample period.

The results of estimating Equation (6), which are reported in Table 11, show a positive association between the proportion of fraudulent board members and the volatility of profit measures. Specifically, the coefficients on $FRAUD_{it}$ are positive and significant at the 0.05 level or better. The only other variable in the regressions with a significant coefficient is firm size. In particular, profit volatility is smaller in larger companies, as expected. Overall, the results in Table 11 suggest that companies with higher proportions of fraudulent board members experience higher volatility of profit measures. This result is consistent with the sensation-seeking argument, where fraudulent board members are more likely to engage in unwarranted risky projects resulting in higher profit volatility and lower overall profits.

(Table 11 about here)

4.4. Additional analyses and robustness checks

So far, our measure of fraudulent behavior ($FRAUD_{it}$) included involvement in multiple bankruptcies of other firms. We concede, however, that a board member's involvements in bankruptcies (even in multiple bankruptcies) may not be a good measure of fraudulent behavior. We therefore estimate all our regressions excluding $BANKRUPTCY_{it}$ from $FRAUD_{it.}$ The results of these regressions are qualitatively similar to those reported in

Tables 8-11. The only exceptions are the coefficient on $FRAUD_{it} \times OWNER_{it}$ in the rightmost column of Table 8 and the coefficient on $FRAUD_{it}$ in Equation (3a) of Table 9, which are significant at the 0.10, level and the coefficient on EP_{it} in Equation (3b) of Table 9, which is significant at the 0.05 level. Therefore, our results are not sensitive to the inclusion of involvement in bankruptcies in $FRAUD_{it}$.

In all our analyses, we have deflated earnings by the lagged stock price, as is often done in the literature. However, it is possible that investors anticipate the negative outcomes of having fraudulent board members (e.g., investors could anticipate the excessive risk-taking of firms with fraudulent board members). In such a case, earnings deflated by lagged stock prices (EP_{it}) may not fully reflect the effect of fraudulent board members on firm performance, because the negative effect of fraudulent boards on earnings is offset by the same effect on lagged stock price. To address this issue, we have estimated all our models using return-on-assets (ROA_{it}) and return-on-equity (ROE_{it}) instead of EP_{it}. The results of these regressions (not tabulated) are similar to those reported in the tables.

We have also estimated our models with fixed effect random coefficient models with autocorrelated residuals. Specifically, we allow firm-specific constant terms in the models, and also allow the regression residuals to follow an AR(1) process. The results from these analyses (not tabulated) are qualitatively similar to those reported in the tables with the following two exceptions: the coefficient on $FRAUD_{it} \times OWNER_{it}$ in the rightmost column of Table 8 and the coefficient on $FRAUD_{it}$ in Equation (3a) of Table 9 are not significant at the 0.10 level.

5. Summary and Conclusions

Surprisingly, many board members in Swedish listed companies have been convicted of serious crimes while many others have exhibited other types of fraudulent behavior. Recent legislative initiatives, like the Sarbanes-Oxley Act, have focused on preventing corporate frauds by placing more responsibilities on board members, executives and auditors. Perhaps the legislation should focus more on preventing individuals who have previously exhibited fraudulent behavior from holding key positions in publicly listed corporations. While in many countries convicted criminals cannot become external auditors (i.e., certified public accountants), to the best of our knowledge there are no such limitations on the appointment of corporate board members.

What are the economic implications of appointing convicted criminals to the boards of directors of listed companies? Given the importance of the board as a corporate governance mechanism, it is quite surprising to find little or no research on this issue. We address this issue by using data on the criminal records of all board members in Swedish listed firms. First, we document the extent to which firms have individuals with prior fraudulent behavior on their boards of directors. Specifically, we compute the proportion of board members who have been convicted of serious crimes, have an entry in the public non-payment record and have served as board members in three or more bankrupt firms. Our results show that appointing board members who have been convicted of crimes is surprisingly common among listed firms in Sweden, a country where the rule of law is strong and the general level of crime is lower than in many other Western countries. To illustrate, 23% of board members in Swedish listed firms have been convicted of crimes and sentenced to pay a fine or to unconditional or conditional prison sentences. Consequently, 85% of Swedish listed companies have at least one board member who has been convicted of a crime. We also find that many listed firms have board members who have an entry in a public non-payment

record and who have served as board members in three or more other bankrupt firms. Furthermore, our results show that male board members are more likely than females to commit crimes. This finding is interesting given the focus of recent corporate governance studies on the importance of gender diversity in boards.

Next, we examine the economic implications of having fraudulent members on the board. We expect that companies with more fraudulent board members have weaker corporate governance mechanisms leading to lower profitability. Also, we expect these companies to engage in riskier projects without being properly compensated for taking those risks (sensation seeking). As expected, we find that the greater the proportion of fraudulent board members is the lower is the profitability and the higher is the volatility of earnings. In addition, our results show that board members' personal ownership interest in the firm mitigates the negative effect of having fraudulent board members on firm profitability. We also expect the quality of earnings to be negatively associated with the proportion of fraudulent board members. Consistent with our expectation, we find that the power of earnings in explaining stock returns is weaker in companies with more fraudulent board members. These results support our argument that appointing fraudulent board members impairs the ability of the board to monitor and advise management, resulting in lower profits, unwarranted risk-taking, and lower quality financial reporting. Finally, the results of analyzing the direction of causality between the proportion of fraudulent board members and firm performance indicate that appointing fraudulent board members leads to lower profitability rather than vice versa.

The policy implication of our study is obvious. Appointing fraudulent individuals to boards of directors is costly to the firm and its shareholders in terms of lower profits,

excessive risk and lower quality reporting. To reduce this cost, companies should avoid appointing fraudulent individuals to boards of directors.

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Table 1
Sample selection and the Effects of Data Restrictions

	Number of Companies	Firm-year Observations
All listed Swedish companies	650	3,560
Non-financial companies	567	3,061
Companies with complete accounting and other data	369	2,218
Companies with lagged variables, accruals and after truncating 1% on each side as outliers.	334	1,767
Companies with at least three observations for the purpose of calculating standard deviation of earnings and operating cash flows.	222	NA

Table 2
Board Members' Criminal Convictions (Swedish listed firms during 1999-2007)*

	White-collar crimes		Other crimes against the Penal Code		Other crimes		Total	
	N	%	N	%	N	%	N	%
Panel A: **Number of convicted board members**								
Fine sentences	40	100.0	105	100.0	635	100.0	732	100.0
Males	40	100.0	95	90.5	609	95.9	696	95.1
Females	0	0.0	10	9.5	26	4.1	36	4.9
Imprisonment	26	100.0	35	100.0	28	100.0	82	100.0
Males	26	100.0	34	97.1	28	100.0	81	98.8
Females	0	0.0	1	3.9	0	0	1	1.2
Panel B**: Number of convictions**								
Fine sentences	41	100.0	119	100.0	860	100.0	1,020	100.0
Males	41	100.0	105	88.2	831	96.6	977	95.8
Females	0	0.0	14	11.8	29	4.4	43	4.2
Imprisonment	30	100.0	41	100.0	30	100.0	101	100.0
Males	30	100.0	40	97.6	30	100.0	100	99.0
Females	0	0.0	1	2.4	0	0.0	1	1.0

*Note: The table provides descriptive statistics of criminal convictions of board members in Swedish listed companies. The sample includes Swedish listed firms during 1999-2007. The term 'Imprisonment' refers to convictions resulting in either unconditional or suspended sentences of imprisonment, whereas the term 'Fine' refers to a conviction resulting in a fine.

Figure 1
Proportion of firms with at least one board member convicted of a crime per year

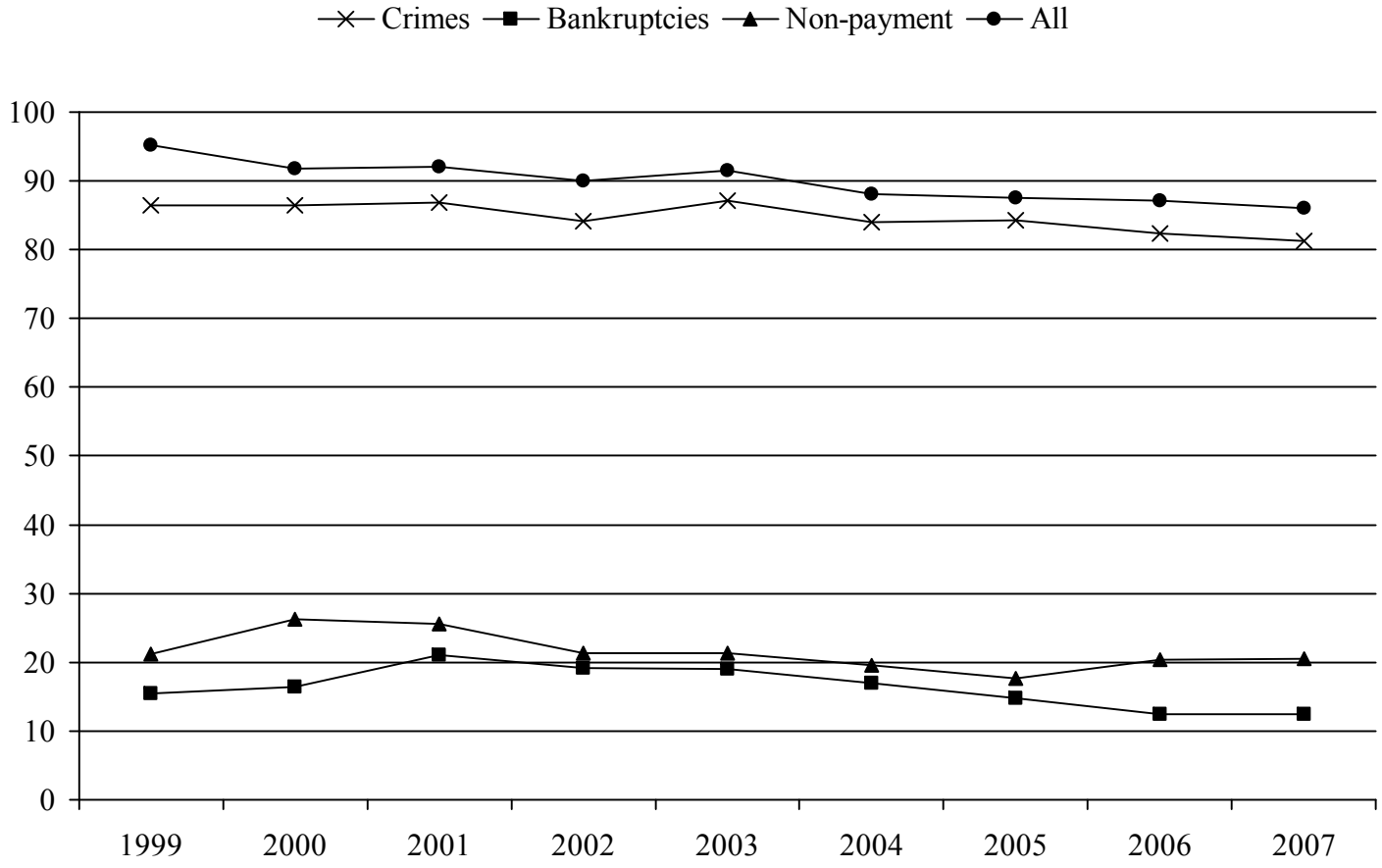

Table 3
Board Members Marked in the Non-payment or Bankruptcy Records*

	Non-payment records		Bankruptcy records	
	N	**%**	**N**	**%**
Total	97	100.0	68	100.0
Males	89	91.8	67	98.5
Females	8	8.2	1	2.5

*Note:

The table provides information on the number of board members in Swedish listed companies who have been entered in the non-payment records and who served as board members in at least three other bankrupt firms.

Table 4
Characteristics of Sample Firms*

	Mean	Median	Std.	Min	Max
Panel A: Personal fraudulent behavior variables					
$CRIME_{it}$	0.257	0.222	0.195	0.000	1.000
$BANKRUPTCY_{it}$	0.030	0.000	0.072	0.000	0.500
$PAYMENT_{it}$	0.038	0.000	0.089	0.000	1.000
$FRAUD_{it}$	0.315	0.273	0.227	0.000	1.000
Panel B: Other corporate governance variables					
$MALE_{it}$	0.868	0.889	0.140	0.000	1.000
$BUSY_{it}$	0.157	0.143	0.160	0.000	1.000
$BOARDSIZE_{it}$	2.052	2.079	0.393	0.693	2.996
$INSIDER_{it}$	0.020	0.000	0.058	0.000	0.500
$OWNER_{it}$	0.143	0.010	0.230	0.000	1.000
Panel C: Firm specific variables					
ROA_{it}	0.002	0.061	0.209	-1.311	0.503
ROE_{it}	-0.029	0.088	0.594	-12.266	5.519
EP_{it}	-0.019	0.036	0.206	-1.188	0.500
$OPERCF_{it}$	0.022	0.069	0.186	-0.922	0.429
$LEVERAGE_{it}$	0.172	0.145	0.159	0.000	0.814
$TOTACCRUALS_{it}$	0.081	0.058	0.079	0.000	0.570
$SIZE_{it}$	6.794	6.562	2.131	1.353	12.654
$MRET_{it}$	0.021	-0.047	0.500	-1.052	2.343

*Notes:

1. The table provides descriptive statistics on the main variables in our analysis. The sample includes 334 listed Swedish firms (1,767 firm-year observations) during the period 1999-2007.

2. Variables are defined as follows:
   - $CRIME_{it}$ – The ratio of the number of board members convicted of crimes to the total number of board members for firm *i* at the end of year *t*.
   - $BANKRUPTCY_{it}$ – The number of board members serving as board members in three or more other bankrupt firms divided by the total number of board members for firm *i* at year-end *t*.
   - $PAYMENT_{it}$ – The number of board members having a non-payment record divided by the total number of board members for firm *i* at year-end *t*.
   - $FRAUD_{it}$ – The sum of $CRIME_{it}$, $BANKRUPTCY_{it}$ and $PAYMENT_{it}$.
   - $MALE_{it}$ – The proportion of male board members for firm *i* at year-end *t.*

- $BUSY_{it}$ – The proportion of board members with three or more board memberships in the listed Swedish firms for firm *i* at the end of year *t*.
- $BOARDSIZE_{it}$ – The logarithm of the total number of board members for firm *i* at year-end *t*.
- $INSIDER_{it}$ – The proportion of board members who hold executive positions in the firm in addition to being on the board.
- ROA_{it} – Return on total asset, measured as earnings before interest and taxes divided by lagged total asset for firm *i* at year-end *t*.
- *ROE* – Return on equity, measured as net income divided by shareholders' equity.
- EP_{it} – Firm *i*'s earnings per share for period *t* divided by beginning of period share price.
- $TOTACCRUALS_{it}$ – Total accruals for firm *i* at year-end *t*, measured as change in inventory plus change in receivables plus change in other current assets minus change in payables minus change in other current liabilities minus depreciation.
- $OPERCF_{it}$ – Net income minus total accruals, deflated by average total assets.
- $LEVERAGE_{it}$ – Interest bearing debt divided by total assets.
- $SIZE_{it}$ – Log of total assets.
- $MRET_{it}$ – Annual market-adjusted stock return measured from January to December of each year.

3. We have truncated the distributions of EP_{it}, $OPERCF_{it}$ and $MRET_{it}$ by deleting observations below/above 1%/99% of the distributions of these variables.

Table 5
Correlation Matrix for the Main Variables*

		1	2	3	4	5	6	7	8	9	10	11	12
1	$FRAUD_{it}$		0.86	0.41	0.46	0.22	0.08	0.04	-0.02	-0.19	-0.16	-0.02	-0.18
2	$CRIME_{it}$	0.86		0.08	0.19	0.20	0.08	0.03	-0.00	-0.13	-0.12	0.04	-0.13
3	$BANKRUPTCY_{it}$	0.36	0.04		0.07	0.07	-0.05	-0.04	-0.02	-0.20	-0.13	-0.10	-0.21
4	$PAYMENT_{it}$	0.45	0.12	0.05		0.11	0.04	0.01	0.01	-0.11	-0.06	-0.03	-0.04
5	$MALE_{it}$	0.22	0.17	0.08	0.11		0.02	0.06	0.04	-0.05	-0.07	0.02	-0.15
6	$OWNER_{it}$	0.32	0.30	0.01	0.08	0.00		-0.03	0.04	0.09	0.06	-0.04	0.05
7	$BUSY_{it}$	0.02	0.02	-0.05	0.04	0.02	0.05		-0.13	0.09	0.13	0.05	0.39
8	$INSIDER_{it}$	-0.01	-0.01	0.00	0.02	0.04	0.03	-0.13		0.01	0.02	-0.02	-0.05
9	EP_{it}	-0.16	-0.09	-0.16	-0.10	-0.07	0.11	0.13	0.01		0.56	0.02	0.32
10	$OPERCF_{it}$	-0.13	-0.09	-0.12	-0.03	-0.10	0.07	0.14	0.01	0.60		0.04	0.38
11	$LEVERAGE_{it}$	-0.03	0.04	-0.08	-0.01	-0.01	0.03	0.09	-0.3	0.13	0.00		0.34
12	$SIZE_{it}$	-0.17	-0.10	-0.20	0.01	-0.20	0.13	0.43	-0.01	0.41	0.36	0.42	

*Note: The table presents pair-wise Pearson (above diagonal) and Spearman (below diagonal) correlations for the main variables. Correlations above 0.06 and below -0.06 are significant at the 0.05 level. The sample includes 334 listed Swedish firms (1,767 firm-year observations) during the period 1999-2007. See Table 3 for variable definitions

Table 6
Determinants of the Proportion of Fraudulent Board Members ($FRAUD_{it}$)*

Variable	Expected Sign	Pooled Coefficient (*t*-test)	Fama-MacBeth Coefficient (*t*-test)
Intercept	?	0.11 (1.48)	0.06 (1.14)
$MALE_{it}$	+	**0.27** **(3.88)+**	**0.33** **(7.81)+**
$BUSY_{it}$	-	0.13 (1.92)	**0.13** **(2.55)***
$INSIDER_{it}$	-	-0.11 (-0.75)	-0.09 (-0.92)
$LEVERAGE_{it}$	?	0.09 (1.44)	**0.10** **(2.30)***
$SIZE_{it}$	-	**-0.02** **(3.42)**	**-0.02** **(3.33)**
Yearly & industry dummy variables		YES	NO
Adjusted R^2		0.14	0.26
Observations		1,767	9

*Notes:

1. The table provides results for estimating Equation (1). The model is:

$$FRAUD_{it} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_s INDUSTRY_r + \beta_1 MALE_{it} + \beta_2 BUSY_{it} + \beta_3 INSIDER_{it} + \beta_4 LEVERAGE_{it} + \beta_5 SIZE + \varepsilon_{it}$$

   The dependent variable is $FRAUD_{it}$ (the proportion of fraudulent board members). Independent variables are: $MALE_{it}$ (the proportion of male board members); $BUSY_{it}$ (the proportion of board members with three or more board memberships in listed Swedish firms); $INSIDER_{it}$ (the proportion of board members who hold other positions in the firm); $LEVERAGE_{it}$ (interest-bearing debt divided by total assets); and $SIZE_{it}$ (the logarithm of total assets).

2. The pooled regression is estimated using pooled data with year and industry fixed-effects. All *t*-values in the pooled regression are based on heteroskedasticity-adjusted standard

errors. We also take into account the firm-level clustering in standard errors as in Petersen (2009). Specifically, we allow both a firm and time effect to be present in the panel data and address the time effect parametrically by including yearly dummies and then estimate standard errors clustered on the firm dimension.

3. In addition to pooled regression, we report results using average coefficients and corresponding *t*-statistics from cross-sectional annual regressions as in Fama and MacBeth (1973). In the Fama-MacBeth regressions, we compute t-values based on nine annual observations.

4. +, * denote significance levels at the 0.01 and 0.05 levels respectively.

Table 7
Firm Characteristics by Level of Fraudulent Board Members
Univariate Portfolio Analysis*

	Low	2	3	High	t-test	*P*-value
					High-Low	
Panel A: Equal-sized portfolios sorted by $FRAUD_{it}$						
# of firms	**83**	**84**	**83**	**84**		
EP_{it}	0.003	-0.003	-0.015	-0.133	**4.54**	**(0.00)**
$OPERCF_{it}$	0.030	0.048	0.026	-0.063	**3.40**	**(0.00)**
$SIZE_{it}$	6.827	6.622	6.660	5.477	**4.08**	**(0.00)**
$TOTACCRUALS_{it}$	0.076	0.089	0.081	0.114	**-3.85**	**(0.00)**
MRET	0.026	-0.006	-0.004	-0.078	**1.92**	**(0.06)**
Std(EP_{it})	0.082	0.117	0.145	0.200	**-4.69**	**(0.00)**
Std($OPERCF_{it}$)	0.098	0.099	0.123	0.149	**-3.23**	**(0.00)**
Panel B: Variable-sized portfolios sorted by $FRAUD_{it}$						
	<30%	**30%-50%**	**50%-70%**	**>70%**		
# of firms	**169**	**90**	**50**	**25**		
EP_{it}	0.002	-0.033	-0.093	-0.199	**4.54**	**(0.00)**
$OPERCF_{it}$	0.040	0.018	-0.061	-0.075	**3.40**	**(0.00)**
$SIZE_{it}$	6.744	6.638	5.481	4.984	**4.08**	**(0.00)**
$TOTACCRUALS_{it}$	0.082	0.084	0.115	0.148	**-3.84**	**(0.00)**
MRET	0.013	-0.019	-0.113	0.001	0.16	(0.87)
Std(EP_{it})	0.098	0.150	0.193	0.228	**-4.69**	**(0.00)**
Std($OPERCF_{it}$)	0.099	0.122	0.158	0.148	**-3.23**	**(0.00)**

*Notes:

1. Panel A presents mean variables for quartile-portfolios sorted according to the proportion of fraudulent board members ($FRAUD_{it}$). Panel B presents mean variables for variable-sized portfolios for different levels of $FRAUD_{it}$. The table reports average values for each variable along with the *t*-test (and corresponding *p*-values) for the difference in means between the extreme portfolios. See Table 3 for variable definitions.

2. The sample includes Swedish listed companies with sufficient data (1,767 firm year observations) over the period 1999-2007.

3. Time-series averages for the variables EP_{it}, $OPERCF_{it}$, $SIZE_{it}$, and $FRAUD_{it}$ are calculated for each firm over the sample period. Standard deviations – Std(EP_{it}) and Std($OPERCF_{it}$) – are calculated for each firm over the sample period. When calculating these volatility measures, each firm has to have at least three years of data, which reduces the number of firms for which we can have the volatility measures. Then we classify each firm into portfolio based on the average value of $FRAUD_{it}$.

Table 8
The Association between Profitability and the Proportion of Fraudulent Board Members (*FRAUD*)*

	Exp. Sign	Dependent Variable EP_{it}	EP_{it}	Dependent Variable $OPERCF_{it}$	$OPERCF_{it}$
$FRAUD_{it}$	-	**-0.11 (-3.63)+**	**-0.17 (-4.48)+**	**-0.09 (-3.07)+**	**-0.13 (-3.81)+**
$FRAUD_{it}$ x $OWNER_{it}$	+	---	**0.47 (3.09)+**	---	**0.33 (2.04)***
$OWNER_{it}$	?	---	-0.06 (-1.22)	---	-0.06 (-1.30)
$MALE_{it}$	?	**0.11 (2.19)***	0.09 (1.91)	0.05 (1.15)	0.05 (0.99)
$BUSY_{it}$	?	-0.04 (-1.05)	-0.04 (-0.98)	-0.04 (-0.97)	-0.03 (-0.95)
$INSIDER_{it}$	?	0.06 (0.50)	0.04 (0.36)	0.10 (1.15)	0.09 (1.05)
$LEVERAGE_{it}$	?	**-0.20 (-4.47)+**	**-0.19 (-4.21)+**	**-0.17 (-4.12)+**	**-0.16 (-3.94)+**
$SIZE_{it}$	?	**0.03 (8.51)+**	**0.03 (8.70)+**	**0.04 (9.28)+**	**0.04 (9.35)+**
Year and industry dummies		YES	YES	YES	YES
Adjusted R^2		0.21	0.22	0.23	0.24
Observations		1,767	1,767	1,767	1,767

*Notes:

1. The Table provides results for estimating Equation (2). The model is:

$$PROF_{it} = \alpha_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 FRAUD_{it} + \beta_2 FRAUD_{it} \times OWNER_{it} + \beta_3 OWNER_{it} + \beta_4 MALE_{it} + \beta_5 BUSY_{it} + \beta_6 INSIDER_{it} + \beta_7 LEVERAGE_{it} + \beta_8 SIZE_{it} + \varepsilon_{it},$$

The dependent variables are EP_{it} (earnings deflated by the beginning of year market value of equity) and $OPERCF_{it}$ (operating cash flows deflated by total assets) in the current and subsequent periods. Independent variables are: $FRAUD_{it}$ (the proportion of fraudulent board members); $MALE_{it}$ (the proportion of male board members); $BUSY_{it}$

(the proportion of board members with three or more board memberships in listed Swedish firms); $INSIDER_{it}$ (the proportion of board members who hold other positions in the firm); $LEVERAGE_{it}$ (debt divided by total assets); and $SIZE_{it}$ (the logarithm of total assets).

2. The regressions are estimated using pooled data with year and industry fixed-effects. All *t*-values in the pooled regression are based on heteroskedasticity-adjusted standard errors. We also take into account the firm-level clustering in standard errors as in Petersen (2009). Specifically, we allow both a firm and time effect to be present in the panel data and address the time effect parametrically by including yearly dummies and then estimate standard errors clustered on the firm dimension.

3. +, * denote significance levels at the 0.01 and 0.05 levels respectively.

Table 9
Causal Association between Profitability and the Proportion of Fraudulent Board Members (*FRAUD*)*

	Exp. Sign	Dependent Variable Equation (3a)		Equation (3b)	
		EP_{it+1}	$OPERCF_{it+1}$	$FRAUD_{it+1}$	$FRAUD_{it+1}$
EP_{it}	+/-	**0.28**	---	-0.04	---
		(7.25)*	---	(-1.68)	---
$OPERCF_{it}$	+/-	---	**0.38**	---	-0.04
		---	**(9.21)***	---	(-1.40)
$FRAUD_{it}$	-/+	**-0.08**	**-0.05**	**0.74**	**0.75**
		(-2.85)*	**(-2.01)***	**(29.81)***	**(29.89)***
$MALE_{it}$	?	-0.01	0.02	0.06	0.06
		(-0.14)	(0.35)	(1.80)	(1.72)
$BUSY_{it}$	?	0.00	-0.02	0.02	0.02
		(0.13)	(-0.57)	(0.62)	(0.60)
$INSIDER_{it}$	?	0.00	0.02	-0.01	-0.01
		(0.02)	(0.25)	(-0.10)	(-0.18)
$LEVERAGE_{it}$	?	-0.03	0.05	0.02	0.02
		(-0.67)	(1.60)	(0.77)	(0.87)
$SIZE_{it}$	?	**0.01**	**0.02**	-0.00	-0.00
		(3.38)+	**(4.61)+**	(-0.97)	(-0.96)
Year and Industry dummies		YES	YES	YES	YES
Adjusted R^2		0.29	0.25	0.61	0.61
Observations		1,435	1,435	1,435	1,435

*Note:

The table presents results for estimating Equations (3a) and (3b). The purpose of the analysis is to establish the direction of causality. Variables and estimation method are as in Table 7. +, * denote significance levels at the 0.01 and 0.05 levels respectively.

Table 10
The Effect of *FRAUD* on the Value-Relevance of Earnings*

	Expected Sign	*Pooled*	*Fama-MacBeth*
$FRAUD_{it}$	?	-0.02 (-0.30)	0.01 (0.08)
EP_{it}	+	**1.03** **(7.40)+**	**1.24** **(6.60)+**
$FRAUD_{it}$ x EP_{it}	-	**-0.47** **(-2.11)***	**-1.03** **(-2.81)***
ΔEP_{it}	+	**0.43** **(4.42)+**	**0.57** **(2.42)***
$FRAUD_{it}$ x ΔEP_{it}	-	**-0.54** **(-3.99)+**	-0.66 (-1.66)
$SIZE_{it}$	**?**	-0.00 (-0.13)	-0.00 (-0.37)
Year dummies		YES	NO
Adjusted R^2		0.16	0.19
Observations		1,767	9

*Notes:

1. The table presents results for estimating Equation (5). The model is:

$$RET_{it} = \delta_0 + \sum_{s=1998}^{2007} \alpha_s YEAR_s + \delta_1 FRAUD_{it} + \delta_2 EP_{it} + \delta_3 \Delta EP_{it} + \delta_4 EP_{it} \times FRAUD_{it} + \delta_5 \Delta EP_{it} \times FRAUD_{it} + \delta_6 SIZE_{it} + \upsilon_{it}.$$

   The dependent variable (RET_{it}) is annual market adjusted stock returns from January to December (firm's annual return minus annual market return in Sweden). Independent variables include $FRAUD_{it}$ (the percentage of fraudulent board members); EP_{it} (earnings levels per share divided by beginning of period share price), ΔEP_{it} (earnings changes divided by beginning of period share price); interaction variables between $FRAUD_{it}$ and both earnings variables; and $SIZE_{it}$ (log of total assets).

2. The pooled regression is estimated using pooled data with year and industry fixed-effects. All *t*-values in the pooled regression are based on heteroskedasticity-adjusted standard errors. We also take into account the firm-level clustering in standard errors as in Petersen (2009). Particularly, we allow both a firm and time effect to be present in the panel data and address the time effect parametrically by including yearly dummies and then estimate standard errors clustered on the firm dimension.

3. In addition to pooled regression, we report results using average coefficients and corresponding *t*-statistics from cross-sectional annual regressions as in Fama and MacBeth (1973). In the Fama-MacBeth regressions, we compute t-values based on nine annual observations.

4. +, * indicates significance at the 0.01, 0.05 levels respectively.

Table 11
The Association between the Volatility of Earnings and Cash Flows and the Proportion of Fraudulent Board Members ($FRAUD_{it}$)

	Expected Sign	Std(EP_{it})	Std($OPERCF_{it}$)	Std(ROA_{it})
***FRAUD**$_i$*	+	**0.15** **(2.69)+**	**0.07** **(2.24)***	**0.09** **(2.19)***
***MALE**$_i$*	?	-0.10 (-1.36)	-0.05 (-1.13)	-0.07 (-1.35)
***BUSY**$_i$*	?	-0.02 (-0.27)	0.04 (0.91)	-0.00 (-0.08)
***INSIDER**$_i$*	?	0.02 (0.20)	-0.04 (-0.53)	-0.00 (-0.02)
***LEVERAGE**$_i$*	+	**0.24** **(3.32)***	-0.06 (-1.84)	-0.08 (-1.76)
***SIZE**$_i$*	-	**-0.03** **(-4.84)+**	**-0.02** **(-5.11)+**	**-0.02** **(-4.82)+**
Industry dummies		YES	YES	YES
Adjusted R^2		0.26	0.35	0.35
Observations		222	222	222

*Notes:

1. The table presents results for estimating Equation (6) using a sample of listed Swedish companies. The model is:

$$VOLATILITY_i = \alpha_0 + \sum_{r=1}^{R} \alpha_r INDUSTRY_r + \beta_1 FRAUD_i + \beta_2 MALE_i + \beta_3 BUSY_i + \beta_4 INSIDER_i + \beta_5 LEVERAGE_i + \beta_6 SIZE_i + \varepsilon_i$$

   The dependent variables are the standard deviation of earnings divided by lagged share price, $Std(EP_i)$, standard deviation of operating cash flows divided by total assets, $Std(OPERCF_i)$, and standard deviation of return on assets, $Std(ROA_i)$, and. We required at least three observations per firm in order to calculate standard deviations (222 firms).

2. Independent variables are $FRAUD_i$ (average firm proportion of fraudulent board members); $MALE_i$ (average firm proportion of male board members); $BUSY_i$ (average firm proportion of board members with three or more board memberships in other listed Swedish firms); $INSIDER_i$ (average firm proportion of board members who hold executive position in the firm); $LEVERAGE_i$ (average debt divided by total assets); and $SIZE_i$ (average logarithm of total assets).

3. Regressions are estimated with industry fixed-effects. All *t*-values are based on heteroskedasticity-adjusted standard errors. Also, we take into account the firm-level clustering in standard errors as in Petersen (2009).

4. +, * denote significance levels at the 0.01 and 0.05 levels respectively.

Appendix - Numbers of Convictions and Convicted Board Members by Each Law Broken

Code	Title	# of convictions	# of board members convicted	Example	Minimum penalty	Maximum penalty
1951:649	Act on Criminal Responsibility for Certain Traffic Offences	257	189	Drunk or reckless driving	Fines	2 years in prison
1972:603	Road Traffic Promulgation	177	116	Various traffic-related crimes, all types of vehicles	Fines	Fines
1998:1276	Vehicle Ordinance	121	70	Various traffic related crimes, all kinds of vehicles	Fines	Fines
1960:418	Act on Criminal Responsibility for Smuggling	107	80	Importing/Exporting goods without proper payment of duty or other taxes	Fines	6 years in prison
Ch. 8	Theft, Robbery, Other Stealing	57	40	Shoplifting, robbery	Fines	10 years in prison
1972:595	Vehicle Promulgation	36	31	Driving a car with a driving ban	Fines	Fines
Ch. 3	On Crimes against Life and Health	26	19	Assault, manslaughter	Fines	Life Imprisonment
Ch. 9	Fraud and Other Acts of Dishonesty	23	12	Fraud	Fines	6 years in prison
1986:300	Sea Traffic Ordinance	26	19	Violation of international sea traffic rules	Fines	Fines
Ch. 12	Crimes Inflicting Damage	16	10	Damage to public property	Fines	4 years in prison
1941:967	The Conscription Act	14	9	Failure to appear for military service	Fines	1 year in prison

1971:69	Tax Offence Act	11	9	Incorrect information to tax authorities, tax erasion	Fines	6 years in prison
1956:617	Public Order Act	9	7	Arranging public meetings without permit	Fines	6 months in prison
Ch. 11	Crime Against Creditors	9	5	Crime against creditors	Fines	6 years in prison
Ch. 17	On Crime Against Public Activity	9	3	Obstruction of police	Fines	8 years in prison
Ch. 4	On Crimes Against Liberty and Peace	8	8	Unlawful coercion	Fines	Lifetime Imprisonment
1988:327	Vehicle Tax Act	8	8	Driving a vehicle without paying vehicle tax	Fines	6 months in prison
1990:1342	Insider Act	8	7	Insider trading based on non-public information	Fines	2 years in prison
	All others	155	115			